dual point input, if the first or the third point should be regarded as a reference point.

[0032] It is also possible to principally select the point, which is positioned closer to the left side of the input device as the reference point. It is also possible to principally select the point, which is actually positioned closer to the right side as the reference point.

[0033] By using this right/left side reference point approach it can be taken into account that users tend to hold a touch enabled device in their non-dominant hand, and use their dominant hand to perform an input e.g. with a finger or a pen. A user can easily use the thumb of the non-dominant hand to tap on the touch-input device. As it can be expected that a user is either right handed or left handed, it can be expected that in case of a right handed user the point positioned closer to the left side is pressed by the thumb. Therefore it may be expected that the point closer to the left side can be used a s reference point. Thus, a natural way to control touch input based devices, is achieved by the combined movements of two points, such as the pen and the thumb.

[0034] In yet another example embodiment said determination, if said second position has its source in a simultaneous dual point user input, is based on boundary areas. The boundary areas are defined by possible input options and said first position. A dual point user input is excluded, if at least one of said second positions is detected to be outside of said at least one boundary area.

[0035] By using boundary areas, an input that shows a discontinuous signal but leads to a not acceptable or to a not interpretable second input signal can be excluded from being recognized as dual-point input. Thereby a number of possible input signals can be excluded from being recognized as a dual input from the beginning.

[0036] In another example embodiment said input area is defined by a 'half edge distance area' from said first position. A 'half edge distance area' around the first point can define a basic boundary area. If the second input position is detected outside of the half edge distance area, the second point would be calculated outside of the sensible area of the touch pad. So when calculating the position of the third point from a second point outside the half edge distance area, an invalid value is obtained. To prevent that faulty third points can occur, the second point is regarded as a single one point user input, if the distance between the first user input point and the second user input point gets too big. So a step longer than a usual one is interpreted as a single point user input. When using the half width boundary area ¾ of a possible new second user-input positions can be excluded from a double point user input. Therefore, the accuracy can be increased significantly.

[0037] It maybe noted that the boundary areas may depend on the position of the first position, and therefore may have to be calculated. The boundary area concept can also be regarded as a kind of user input prediction, wherein the area in which a second use input is accepted as a dual-point input is reduced. By using boundary areas the reliability of the recognition and the operation of dual point user input can be significantly increased. For further implementations of boundary areas, see FIGS. 9 and 10.

[0038] In yet another example embodiment of the present invention said method further comprises setting a 'dual point user input flag', if said second position input has its source in a dual point user input.

[0039] It can be useful if the device is capable of being aware if the touch pad is actually in a dual point input mode or not. The method can also comprise a 'dual point user input enabled'—flag that is send from a user application, to enable and disable a dual point user input on said touch based input device. The flag can be used to add constraints to the recognition of dual-point input, and thus can increase the accuracy of the recognition process.

[0040] In yet another example embodiment of the present invention said method further comprises using said second position as the actual position of a single point user input, if said dual point user input flag is set and if it is determined that said second position input has its source in a dual point user input.

[0041] Even in the dual point input mode the behavior of the movement of the second position can show a characteristic discontinuous transition behavior, when the user lifts of one of the two elements being in contact with the touch pad. In this case the reference point or the 'calculated' third position vanishes. If the calculated point vanishes, the calculated position or the second position is detected to return (continuously or discontinuously) to the reference point. Analogously, if the reference point vanishes this is indicated by a 'jump' of the second position to the calculated position or the calculated 'jump' of the calculated position to the reflection of the reference point at the calculated position. In this case the set flag can be de-set. If none of these two cases occur, a discontinuous move of the second position to a fourth position can be used to calculate fifth position, representing a third touch point on the touch pad. In this case it is to be noted that the new center of gravity position effects requires a different set of calculation equations than the generation of the third position, to take into account that the second position actually represents two points and not a single one.

[0042] The method can further comprise de-setting or re-setting of said dual point user input flag. The method can further comprise de-setting of said dual point user input flag, if no user input is detected. That is, the flag can automatically be de-set if the touch pad detects that the user is actually not touching the touch pad.

[0043] According to another aspect of the present invention, the method further comprises displaying an indication that the dual point user input is used. A user who is not aware of a dual user input option may be astonished or even frustrated, if the device reacts not in an expected way to a user input. Therefore it can be useful to indicate that the touch pad/screen is actually in a dual user input mode. An indicator, an inserted icon or a cursor displayed on a display of the device, may perform this. Cursors are actually not used in touch screen devices such as Personal Digital Assistants (PDAs), as the cursor would be positioned below the finger or the input actuator, and would therefore not be visible. In case of a dual point user input, it may happen that the 'reference point' is moved and so the cursor position can deviate from the contact position on the touch pad. A cursor can be used to indicate by its form, which of the two points is actually regarded as reference point. A cursor can provide